

	Gas on Gas	Air on Air	Gas on Waste Gas	Air on Waste Air
Frictional resistance of fantails for air and gas:	5 m ³ 32	8 m ³ 51	5 m ³ 19	7 m ³ 58
$Q = Q_0(1 - \frac{1}{2} \frac{v}{v_0}) =$	15 m ³	13 m ³	20 m ³	24 m ³
$il = Q \cdot r \cdot a^2 = \text{m per sec}$	5 m 03	2 m	6 m 81	4 m
$A_0 = \text{specific weight gases}$	1.125	1.293	1.32	1.32
....	0.397	0.834	0.335	0.412
$At = A_0 \cdot r \cdot (1 - \frac{1}{2} \frac{v}{v_0}) = \text{kg per}$	10 00	11 43	10 00	11 43
y = frictional resistance IL. kg per m' =	0 kg 320			
0.016X11.43X2.51X0.8		0 kg		
0.016X10.00X6.81X0			0 kg	
0.016X11.43X4.62X0				0 kg
The pressure necessary to impress their velocity upon the flowing	0.512	0.268	0.795	0.454

	Stack Flue to Boiler or Chimney	Stack Flue from Air Valve	Stack Flue from Gas Valve
Frictional resistance of flues:	5 m	4m	8 m
$L = \text{length in meters} \dots\dots\dots$	00	00	00
$s = \text{perimeter in meters}$	8 m	8 m 00	7 m
$co = \text{area in square meters}$	1 m ² 00	1 m ² 00	3 m ²
$SI = co =$	10 00	8 00	18 67
$Q_0 = \text{volume of gases flowing per}$ sec . . .	12 m ³ 77	7m ³ 58 550°	5m ³ 19 750°
$1 - \frac{1}{2} \frac{v}{v_0} = \text{gas factor} \dots\dots\dots$	3 312	3 0185	3 7525
$Qf = Q_0(1 - \frac{1}{2} \frac{v}{v_0}) \text{ average volume}$	42 m ³	22 m ³	19 m ³
$v = Q \cdot z \cdot (a) = \text{velocity m per sec}$	10 m	5 m 72	6 m
$AO = \text{specific weight of flue gases}$	1 kg 32		
$AI = AO \cdot r \cdot (1 - \frac{1}{2} \frac{v}{v_0}) = \text{kg per m}^3 \text{ gas}$	0 300	0 437	0 352
7=frictional resistance in kg per m ² =	0 kg 676		
0.016X 8.00X 5.72X0		0 kg	
0.016X18.67X 6.50X0			0 kg
The pressure necessary to impress the veloc- ity upon the gases in these flues	2.250	0.730	0.760